

# A New Species of *Sepedon* Latreille from Oregon

(Diptera: Sciomyzidae)<sup>1</sup>

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The genus *Sepedon* (Diptera:Sciomyzidae) was proposed by Latreille (1804: 196). Verbeke (1950) established three new African genera within the Sepedoninae (*Sepedoninus*, *Sepedomyia*, *Sepedonella*) and two subgenera (*Mesosepedon*, *Parasepedon*) under *Sepedon*. Steyskal (1951) preferred to retain a concept of four or five species groups in order to provide a flexible frame of reference for further study of American *Sepedon*. According to the most recent reclassification, that of Steyskal (1973), the *Sepedon* generic group is now considered to consist of three neotropical genera (*Sepedomerus* Steyskal, *Sepedonea* Steyskal, *Thecomyia* Perty), two African genera (*Sepedonella* Verbeke, *Sepedonius* Verbeke), and one genus which is widespread outside the American tropics. (*Sepedon* Latreille which now includes the subgenera *Mesosepedon* and *Parasepedon* and the genus *Sepedomyia* of Verbeke, 1950). Two species groups, *pusilla* and *armipes*, remain assigned to *Sepedon*. The species here described, *Sepedon cascadiensis* n. sp., is the eighth to be placed in the *armipes* group which is comprised of the following species: *S. anchista* Steyskal (1956), *S. armipes* Loew (1859), *S. bifida* Steyskal (1951), *S. capellei* Fisher and Orth (1969), *S. cascadiensis* Fisher and Orth, new species; *S. haplobasis* Steyskal (1960), *S. melanderi* Steyskal (1951), *S. pseudarmipes* Fisher and Orth (1969).

The *armipes* group is uniquely characterized by the deep indentation approximately midway on the ventral surface of the male hind femur (Fig. 4). Other characters shared in common are: supraspiracular convexity with black hairs; medifacies with scattered black hairs; second antennal segment slender, nearly round in cross section; body less than six mm long. Aedeagal differences afford reliable criteria for separating the eight species.

The only known species we have not seen of those assigned to the *armipes* group is *S. melanderi*. It is known only from a single pair

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FIG. 1. *Sepedon cascadensis* Fisher and Orth, new species. Paratype, male. Oregon, Jackson Co., 1.3 mi. SW of Prospect, Hwy 62, VII-12-1970, elevation 2450 feet (T. W. Fisher and R. E. Orth) field notes accession number AS-862. Photo by K. L. Middleham, University of California, Riverside.

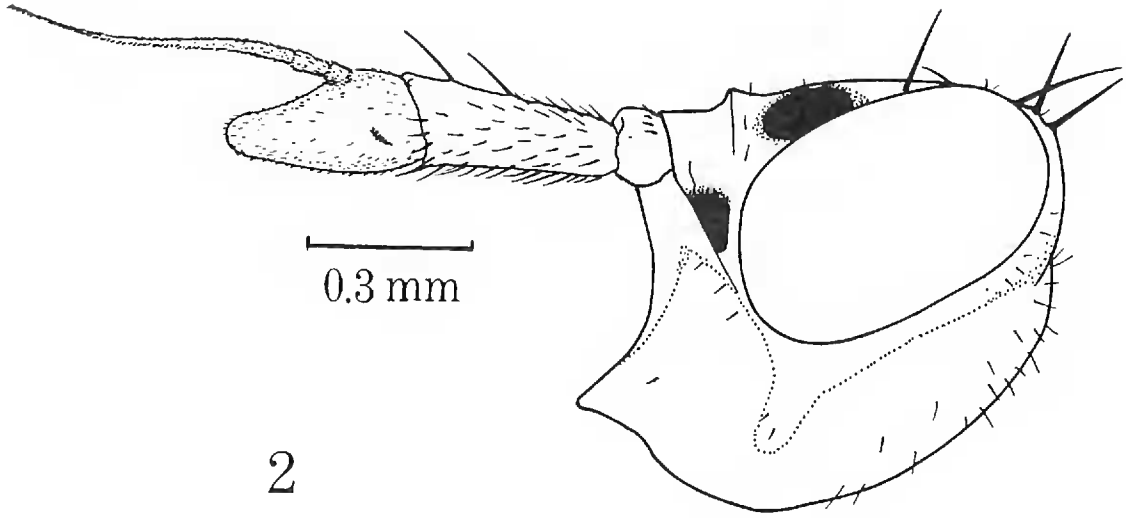
collected at Snoqualmie Pass, Washington, June 29, 1924, by A. L. Melander. C. O. Berg, Cornell University (personal correspondence), tried without success to collect *S. melanderi* at the type locality where we in 1972 experienced the same disappointment.

The illustrated description of *S. melanderi* by Steyskal (1950) suggests a close resemblance to *S. cascadensis* n. sp., but when L. V. Knutson and G. C. Steyskal (personal correspondence) compared the type of *melanderi* with our proposed type specimen, they concurred that the two taxa were not conspecific.

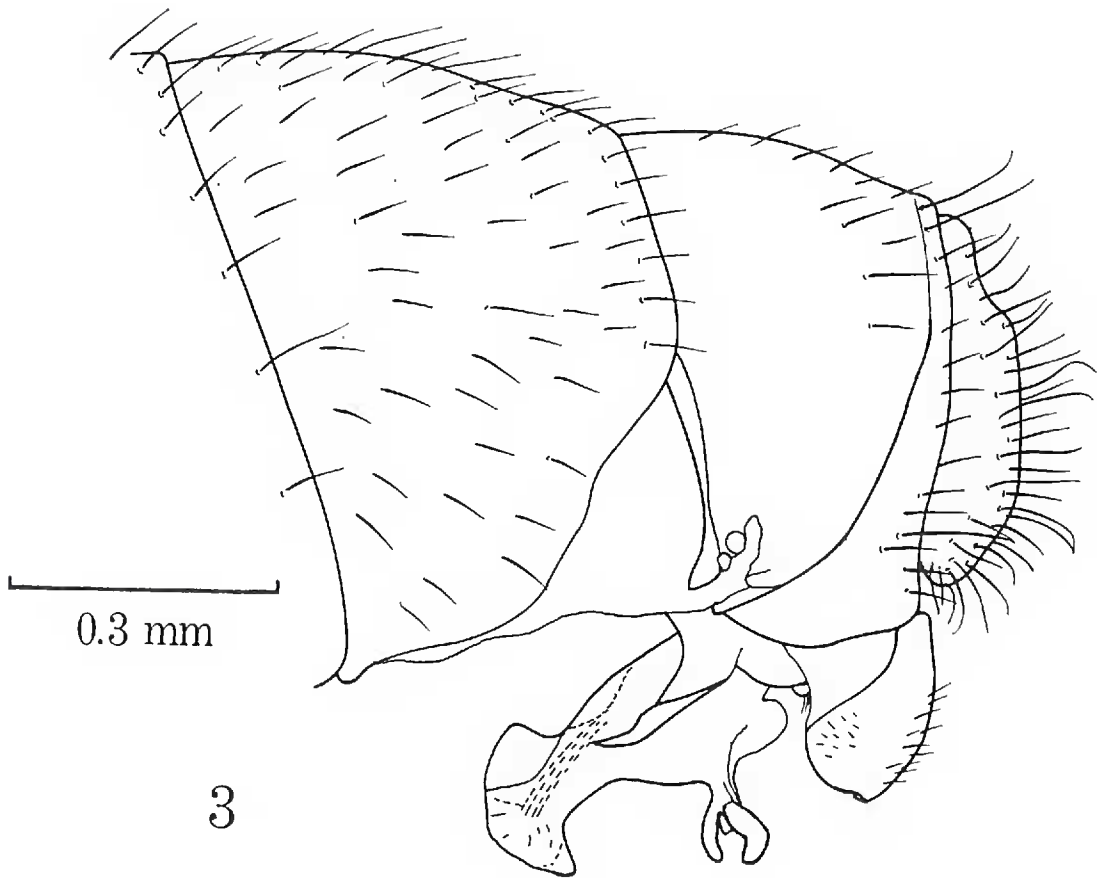
Comparative electromicrographs (Figs. 5-8) of male terminalia reveal that *S. cascadensis* n. sp. is distinct from both *S. armipes* and

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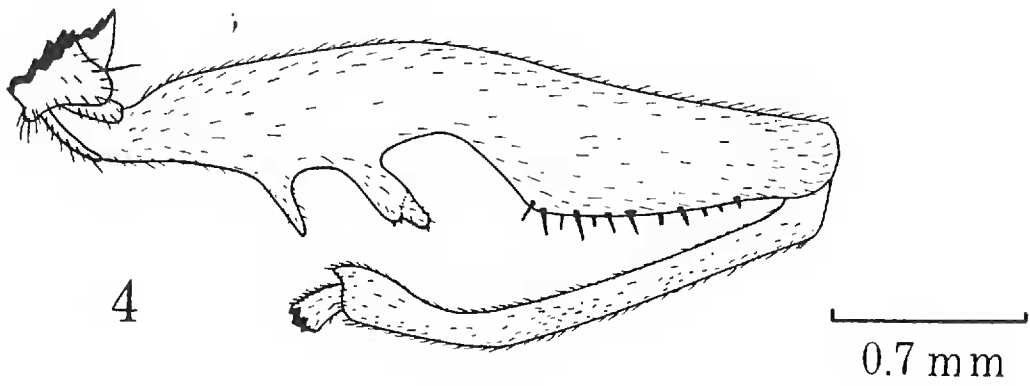
FIG. 2-4. *Sepedon cascadensis* Fisher and Orth, new species. Oregon, Hood River Co., .5 mi. S of Sherwood Campground, Mt. Hood National Forest, VI-18-1969, elevation 3180 feet (R. E. Orth) field notes accession number AS-793. Fig. 2-3. Holotype. Sinistral view, head and terminalia. Fig. 4. Paratype. Sinistral view, hind femur and tibia.



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*S. capellei*. The slight differences between the aedeagi of the two specimens of *S. cascadiensis* illustrated are considered to be within acceptable limits of variation. This magnitude of aedeagal variation is characteristic of that seen in other species of the *armipes* group.

Although *S. capellei* has been collected throughout Oregon, *S. armipes* is not known from that state; it approaches to within 50 miles of the Oregon border in Idaho.

### *Sepedon cascadiensis* new species

Male.—Wing length 4.3 mm. Head (Fig. 2) with parafrontal spots large, oval, dull black surrounded by a narrow whitish pruinose edge; orbito-antennal spots large, round, surrounded by a pruinose area that extends 0.8 of distance from antennal sockets to oral margin forming a blunt V-shaped area in the central portion of the face; remainder of face shiny brown. Thorax ferruginous-pruinose on sides; dorsum same but with longitudinal vittae. Legs (Fig. 4) ferruginous, slightly infumate; hind femur with deep emargination approximately midway on ventral surface. Wings brownish translucent, marginal and submarginal cell more yellowish, with smoky areas about ta and tp; posterior cross vein bowed out slightly. Abdomen brownish-infumate. Postabdomen (Fig. 3).

Female.—Wing length 4.8 mm. Similar to male; hind femora without emargination; fore tarsal segments smoky brown.

Holotype male.—OREGON, HOOD RIVER CO., HWY 35, 5 MI. S. OF SHERWOOD CAMPGROUND, MT. HOOD NATIONAL FOREST, VI-18-1969, elevation 3180 feet (R. E. Orth) field notes Accession No. AS-793. Allotype: same locality, VII-9-1970 (T. W. Fisher-R. E. Orth) field notes Accession No. AS-853. The type locality is a roadside seep of various sedges and grasses with encroaching shrubs and small trees.

Paratypes.—All Oregon. Wing length: 10 ♂, 4.4-4.7 mm, average 4.6; 3 ♀, 4.9-5.1 mm, average 5.0. *Hood River Co.*: 1 ♂ Barlow Pass, V-22-1954, elevation 4000 feet (G. P. Knowlton); 1 ♀ Hwy 35, 5 mi. S. of Sherwood Campground, Mt. Hood National Forest, VI-18-1969, elevation 3180 feet (R. E. Orth) AS-793; 1 ♂, same locality, VII-9-1970 (T. W. Fisher and R. E. Orth) AS-853. *Jackson Co.*: 2 ♂, 1.3 mi. SW. of Prospect, Hwy 62, VII-12-1970, elevation 2450 feet (T. W. Fisher and R. E. Orth) AS-862; 1 ♂, Hwy 62, SW. of Prospect, VI-19-1972, elevation 2560 feet (T. W. Fisher and R. E. Orth) AS-926. *Marion Co.*: 2 ♀, 5 ♂, Breitenbush, June 14, 1963 (Kenneth Goeden).

Holotype and allotype deposited at California Academy of Sciences, CAS NO. 12038. Paratypes: Oregon State Dept. Agric., UCR, U.S.N.M.

The new species is named after the Cascade Mountains of the Pacific Northwest. All known specimens have been collected within those mountains.

*Sepedon cascadiensis* is known only from Oregon. We have collected rather extensively and have seen large numbers of Oregon sciomyzids borrowed from other institutions. To date the distributional record is restricted to four localities. These localities fall between 121° and

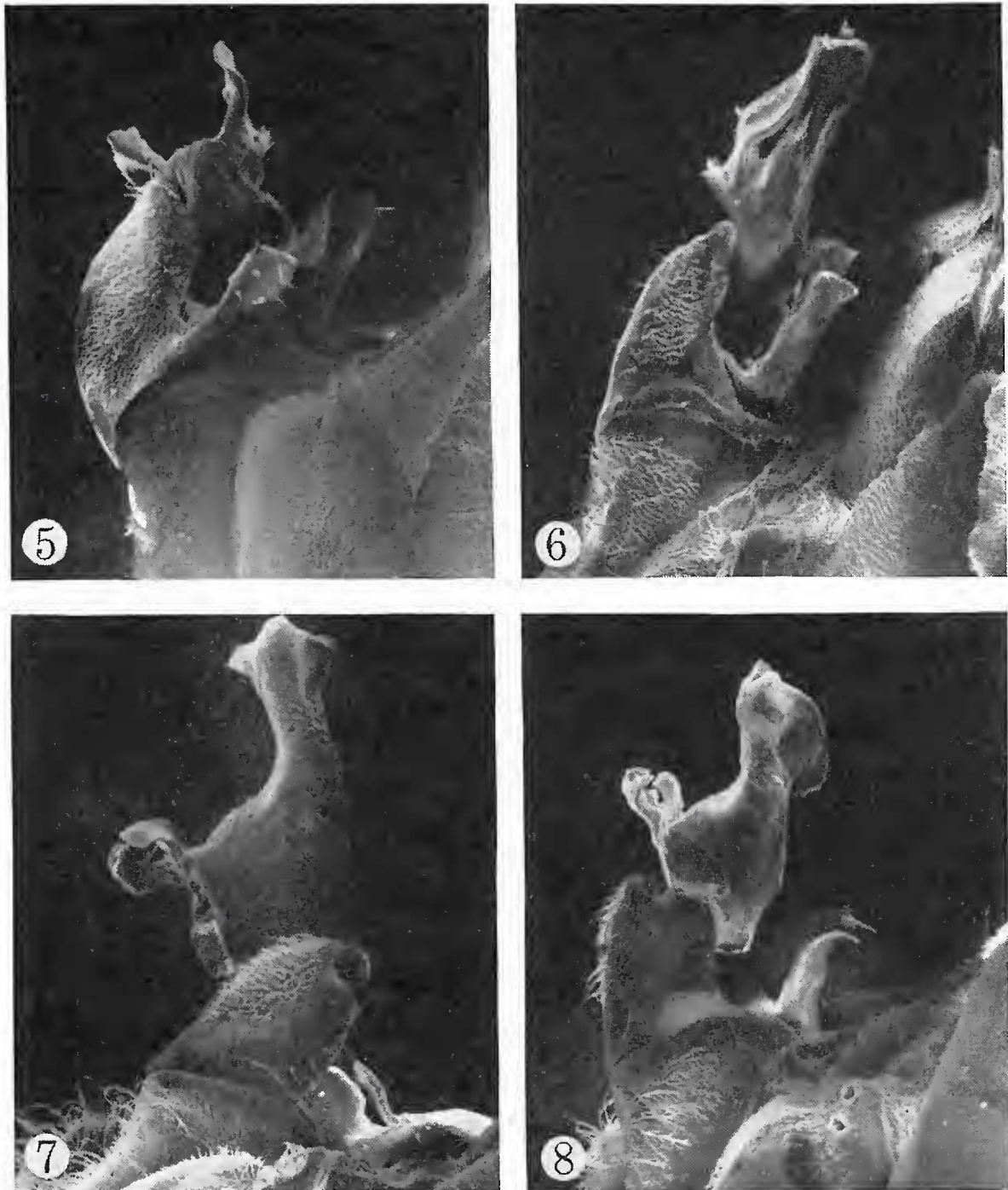


FIG. 5-8. Aedeagi and surstyli, sinistral views inverted. Fig. 5. (100 $\times$ ). *Sepedon armipes* Loew, Nebraska, Lincoln Co., 2 mi. E of North Platte, VII-24-1970, elevation 2800 feet (T. W. Fisher and R. E. Orth) field notes accession number AS-885. Fig. 6. (100 $\times$ ). *Sepedon capellei* Fisher and Orth, Nevada, Douglas Co., Hwy 395, 2 mi. N of Jct. Hwy 3, V-4-1972, elevation 5500 feet (R. E. Orth) field notes accession number AS-923. Fig. 7-8. (100 $\times$  and 90 $\times$ , respectively) *Sepedon cascadensis* Fisher and Orth, new species. Paratypes. Oregon, Marion Co., Breitenbush, VI-14-1963 (Kenneth Goeden).

122° longitude, and 42° and 46° latitude. Elevations where *S. cascadensis* have been collected range from 2400 feet at Breitenbush, Marion County, to 4000 feet at Barlow Pass, Hood River County. These habitats consisted of open to partially shaded emergent vegeta-

tion in conjunction with roadside seeps, springs or slowly flowing streams.

From a total of five collections by Fisher and/or Orth at the Sherwood Campground (elev. 3180 feet) and Prospect (elev. 2560 feet) sites *S. cascadiensis* amounted to approximately 8% of the 106 specimens (in 15 sciomyzid species) collected from 1969–1972 between the dates of VI-18 and VII-12.

*Electromicrographs.* The micrographs were taken with a Japan Electron Optics Scanning Electron Microscope (JSM-U3) at UCR. Voltages were 10 to 15 KV. Specimen preparation was accomplished by severing the distal part of the abdomen and placing it into boiling KOH for a period of 30 to 60 seconds to dissolve soft tissues but not thin connective membranes and sclerotized structures. The specimen was then flushed with distilled water and transferred into a U.S. Bureau of Plant Industry watch glass previously coated with bee's wax and containing a thin layer of distilled water. Minutens were then used to pin and wedge the abdomen to the wax substrate. Accessory organs and aedeagus were extended and held in place with additional pins. The specimen was dehydrated by flushing with 50% and 95% ethyl alcohol, then allowing it to dry overnight. The specimen was then affixed to a short aluminum stub with silver-conductive paint before placing it in a vacuum chamber for coating with 100 Å of gold.

#### ACKNOWLEDGMENTS

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